

AMENDMENTS TO THE CLAIMS

1. (Cancelled)
2. (Currently amended) The method for manufacturing a semiconductor device according to claim 15, wherein the first polymer contains at least one of polyimides, acrylic polymers, polymers having an alicyclic structure and fluorocarbon resins formed by homo-polymerizing or co-polymerizing fluorine-containing monomers.
3. (Previously presented) The method for manufacturing a semiconductor device according to claim 2, wherein the fluorine-containing monomers comprise at least one of fluoroolefines, fluorovinylether, vinylidene fluoride, vinyl fluoride, chlorofluoroolefines, and fluorovinylether having carboxylic groups or sulfonic groups.
4. (Currently amended) The method for manufacturing a semiconductor device according to claim 15, wherein said first polymer contains 10% by weight or more fluorine atoms.
5. (Cancelled)
6. (Cancelled)
7. (Currently amended) The method for manufacturing a semiconductor device according to claim 15, wherein said first polymer has a cross-linked structure.
8. (Cancelled)
9. (Cancelled)
10. (Cancelled)

11. (Currently amended) The method for manufacturing a semiconductor device according to claim 15, wherein said solvent comprises at least one of alcohols, aromatic hydrocarbons, ketones, esters, chlorofluorocarbons, and ~~super pure~~ water.

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Currently amended) A method for manufacturing a semiconductor device, comprising:

a) an anti-reflective coating forming step for forming an anti-reflective coating by coating [[the]] a composition for an anti-reflective coating according to claim 1 on over a semiconductor substrate[[;]] , the composition including:

- i) a first polymer containing fluorine; and
- ii) a solvent for dissolving said first polymer;

b) a resist film forming step for forming a resist film of a polymer containing fluorine on the anti-reflective coating formed in said anti-reflective coating forming step; and

c) an exposure step for radiating exposure light onto the resist film formed in said resist film forming step.

16. (Currently amended) The method for manufacturing a semiconductor device according to claim 15, wherein said anti-reflective coating forming step comprises a heating step for further comprising:

d) heating the semiconductor substrate on which the anti-reflective coating is formed between steps a) and b).

17. (Currently amended) The method for manufacturing a semiconductor device according to claim 16, wherein ~~said heating step d)~~ is performed at a temperature between 100°C and 250°C for 30 seconds to 60 minutes.
18. (Currently amended) The method for manufacturing a semiconductor device according to claim 16, wherein ~~said heating step d)~~ is performed in an oxygen atmosphere.
19. (Currently amended) The method for manufacturing a semiconductor device according to claim 16, wherein [[the]] a thickness of the anti-reflective coating is made 150 nm or less ~~in said heating step~~.
20. (Currently amended) The method for manufacturing a semiconductor device according to claim 15, wherein [[the]] a wavelength of the exposure light ~~radiated in said exposure step~~ is 254 nm or less.